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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/771,522	02/05/2004	Junpei Ogawa	023971-0371	3059

22428 7590 03/02/2005

FOLEY AND LARDNER  
SUITE 500  
3000 K STREET NW  
WASHINGTON, DC 20007

EXAMINER
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LUONG, VINH

ART UNIT	PAPER NUMBER
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3682

DATE MAILED: 03/02/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/771,522

Applicant(s)

OGAWA ET AL.

Examiner

Vinh T Luong

Art Unit

3682

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 07 February 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) 5-18 and 26-28 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 20 is/are allowed.
- 6) ☒ Claim(s) 1, 2, 4, 19 and 21-25 is/are rejected.
- 7) ☒ Claim(s) 3 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.


### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05 February 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

  
Vinh T. Luong  
Primary Examiner

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☒ Other: Attachment.

1. Applicant's election of Group I in the reply filed on February 7, 2005 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse. MPEP § 818.03(a).

2. Claims 9-18 and 26-28 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on February 7, 2005.

3. Applicant's election of species of Figs. 20-23 in the reply filed on February 7, 2005 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse. MPEP § 818.03(a).

4. Claims 5-8 and 13-18 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected species, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on February 7, 2005.

5. The drawings are objected to because:

(a) the drawings are inconsistent with the specification or *vice versa*. For example, Table 2 and its descriptions in the specification describe portions P and Q, however, the drawings do not show the referential character Q; and

(b) the cross sections, e.g., in Figs. 3-6, do not show proper material(s) by hatching with regularly spaced parallel oblique strokes. See 37 CFR 1.84(h)(3).

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing

sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

6. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the claimed feature(s) such as the portion which varies in fatigue strength exists *in each of the first and second joining sections* 30 and 40 and in *the connecting beam sections* (plural, emphasis) in claim 19 must be shown or the feature(s) canceled from the claim(s). *No new matter should be entered.*

7. The disclosure is objected to because of the following informalities: the specification is inconsistent with the drawings or *vice versa*. For example, Table 2 and its descriptions in the specification describe portions P and Q, however, the drawings do not show the referential character Q. Appropriate correction is required.

8. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it

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pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

9. Claims 19 and 21-25 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The “wherein” clauses of claim 19 recites:

*wherein a portion which is the lowest in fatigue strength exists in at least one of the big and small ends, and a portion which varies in fatigue strength exists in each of the first and second joining sections and in the connecting beam sections;*

wherein a product of the cross sectional area and the fatigue strength at a cross section of each of the joining and connecting beam sections is equal to or greater than a product of the cross sectional area and the fatigue strength in the smallest cross sectional area portion in the connecting beam section. (Emphasis added).

However, the specification describes:

Structures were observed of two portions, portion P of the smallest cross sectional area in connecting beam section B and *portion Q having a cross sectional area 1.5 times larger than that of portion P of the smallest cross sectional area and located closer to big end C than portion P was.* A plurality of connecting rods were so made that any other portion of each rod might be of the same structure and hardness with its portions P and Q. (Emphasis added).

However, the specification only discloses a single connecting beam section 40. In addition, the specification merely describes the portion P which is the lowest in fatigue strength exists in at least one of the big and small ends 20 and 60, and the portion Q which varies in fatigue strength exists *in the first joining section 30 only* as seen in the quotation above. The

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specification does not describe, *inter alia*, how one can determine the *claimed* portion which varies in fatigue strength exists *in each of the first and second joining sections* 30 and 40 and in *the connecting beam sections* (plural, emphasis). Further, the drawings do not show the claimed portion which varies in fatigue strength exists *in each of the first and second joining sections* 30 and 40 and in *the connecting beam sections*.

Therefore, claim 19 contains subject matter (i.e., the portion which varies in fatigue strength exists *in each of the first and second joining sections* 30 and 40 and in *the connecting beam sections*) which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the Applicants, at the time the application was filed, had possession of the claimed invention.

10. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

11. Claims 19 and 21-25 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

It is unclear whether the term that appears at least twice such as “a portion” in claim 19 refers to the same or different things. See MPEP 2173.05(o). Applicant is respectfully urged to identify each claimed element with reference to the drawings, especially, Figs. 20-23.

No antecedent basis is seen for the term such as “the connecting beam sections” (plural, emphasis).

The meaning of the term “*a portion which varies in fatigue strength exists in each of the first and second joining sections and in the connecting beam sections*” in claim 19 is not

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understood since the specification and drawings do not describe and/or show said claimed portion.

12. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

13. Claims 1, 2, and 4 are rejected under 35 U.S.C. 102(b) as being anticipated by Japanese Utility Model No. 10-306317 (hereinafter JP'317).

Regarding claim 1, JP'317 teaches a connecting rod comprising:

a connecting beam section (at 14b in Fig. 11(D). See Attachment) serving as a main body of the connecting rod;

a big end 12a, 13a, 14a located at a first end side of the connecting beam section;

a small end 12c, 13c, 14c located at a second end side of the connecting beam section, the second end side being axially opposite to the first end side;

a first joining section (Att.) located between the connecting beam section (Att.) and the big end 12a, 13a, 14a to connect the connecting beam section (Att.) and the big end 12a, 13a, 14a; and

a second joining section (Att.) located between the connecting beam section (Att.) and the small end 12c, 13c, 14c to connect the connecting beam section (Att.) and the small end 12c, 13c, 14c;

wherein each of the first and second joining sections (Att.) gradually and continuously decreases in cross sectional area toward the connecting beam section (Fig. 12) and has a strength distribution in which a strength increases with a decrease in the cross sectional area.

Applicant's claim 1 and other claims below are anticipated by JP'317 because JP'317 teaches each and every positively claimed element of the claim. See Derwent English Abstract attached. On the other hand, note that the "wherein" clause that merely expresses an inherent result, adds nothing to claim's patentability. *Texas Instruments, Inc. v. International Trade Commission*, 26 U.S.P.Q.2d 1018 (CAFC 1993).

Regarding claim 2, the strength distribution is based on a proportion (%) of martensite. See Derwent English Abstract attached.

Regarding claim 4, the strength distribution is inherently formed based on a distribution in at least one of a hardening temperature and a tempering time for each of the first and second joining sections. See Derwent English Abstract attached.

14. Claim 1 is further rejected under 35 U.S.C. 102(b) as being clearly anticipated by Mrdjenovich et al. (US Patent No. 5,048,368).

See cross sections shown in Figs. 7 and 6 that gradually and continuously decrease in cross sectional area toward the connecting beam section 11 as seen in Figs. 2 and 3.

15. Claim 1 is further rejected under 35 U.S.C. 102(b) as being clearly anticipated by Haman (US Patent No. 5,737,976).

See cross sections 103 and 105 shown in Fig. 2 that gradually and continuously decrease in cross sectional area 101 toward the connecting beam section 101.



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16. Claim 3 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

17. Claim 20 is allowed.

18. Claims 19 and 21-25 are too vague and indefinite, thus, the art rejection cannot be made. Upon overcoming the rejections under 35 USC 112, the art rejection may be made.

19. As allowable subject matter has been indicated, applicant's reply must either comply with all formal requirements or specifically traverse each requirement not complied with. See 37 CFR 1.111(b) and MPEP § 707.07(a).

20. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: Geringer et al. (Figs. 5 and 6), Machida et al. (sections shown in Figs. 5-7), Carey (Figs. 3-5), Japanese Utility Model No. 2000-328183 (Fig. 24), Shivanath et al. (Fig. 10),


21. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Vinh T. Luong whose telephone number is 703-308-3221. The examiner can normally be reached on Tuesday - Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Bucci can be reached on 703-308-3668. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Luong

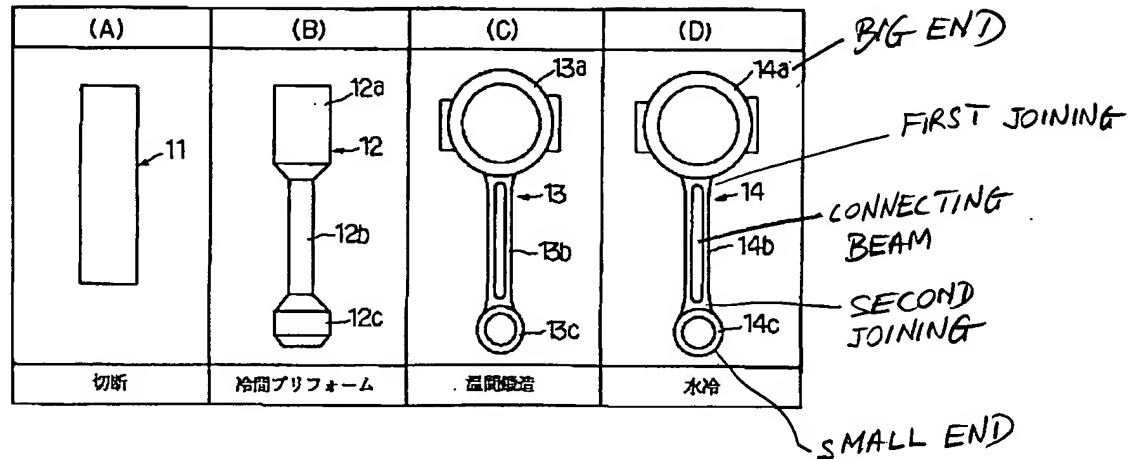
February 25, 2005



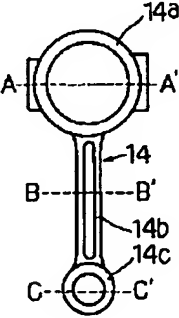
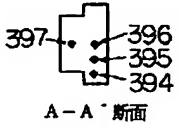
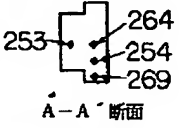

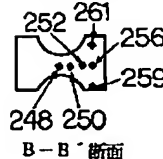


Vinh T. Luong  
Primary Examiner

# ATTACHMENT

【図11】



【図12】

測定部位	ピッカース硬さ (HV)	
	鋼種F (発明例)	鋼種B (比較例)
	 A-A' 断面	 A-A' 断面
	 B-B' 断面	 B-B' 断面
	 C-C' 断面	 C-C' 断面

SMALLEST CROSS SECTION

フロントページの続き

(51)Int.Cl.<sup>6</sup>

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